



SEQUENCE LISTING

<110> Bertin, John
Wang, Weiye
Blatcher, Maria

<120> NOVEL MOLECULES OF THE PYRIN/NBS/LRR
PROTEIN FAMILY AND USES THEREOF

<130> 07334-334001

<140> 10/066,521

<141> 2001-01-31

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<151> 2001-09-10

<150> 60/265,231

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<160> 25

<170> FastSEQ for Windows Version 4.0

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<211> 1506

<212> DNA

<213> Homo sapiens

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<221> CDS

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gag ctc aga aag gaa gag ttt tgg aaa ttt aag gag ctc ctc aaa caa 96
Glu Leu Arg Lys Glu Glu Phe Trp Lys Phe Lys Glu Leu Leu Lys Gln
20 25 30

cct ttg gag aaa ttt gaa ctc aag cca atc ccc tgg gct gag ctg aag 144
Pro Leu Glu Lys Phe Glu Leu Lys Pro Ile Pro Trp Ala Glu Leu Lys
35 40 45

aag gcc tcc aaa gaa gat gta gca aag ctg ctg gac aaa cat tac cca 192
Lys Ala Ser Lys Glu Asp Val Ala Lys Leu Leu Asp Lys His Tyr Pro
50 55 60

gga aag cag gca tgg gag gta aca ctg aac ctg ttt cta cag atc aat 240
Gly Lys Gln Ala Trp Glu Val Thr Leu Asn Leu Phe Leu Gln Ile Asn
65 70 75 80

agg aaa gat ctc tgg aca aag gct cag gaa gag atg aga aat aag cta 288

Arg	Lys	Asp	Leu	Trp	Thr	Lys	Ala	Gln	Glu	Glu	Met	Arg	Asn	Lys	Leu		
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aac	cca	tac	aga	aag	cat	atg	aag	gaa	aca	ttt	caa	ctc	ata	tgg	gag	336	
Asn	Pro	Tyr	Arg	Lys	His	Met	Lys	Glu	Thr	Phe	Gln	Leu	Ile	Trp	Glu		
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aag	gaa	acc	tgt	ctt	cac	gtc	cct	gag	cat	ttc	tac	aaa	gaa	acc	atg	384	
Lys	Glu	Thr	Cys	Leu	His	Val	Pro	Glu	His	Phe	Tyr	Lys	Glu	Thr	Met		
		115					120					125					
aaa	aat	gag	tat	aaa	gaa	ttg	aat	gac	gca	tat	act	gct	gcg	gct	aga	432	
Lys	Asn	Glu	Tyr	Lys	Glu	Leu	Asn	Asp	Ala	Tyr	Thr	Ala	Ala	Ala	Arg		
	130					135					140						
cga	cac	act	gtg	gtc	ctg	gaa	ggg	cct	gat	gga	att	gga	aaa	aca	acc	480	
Arg	His	Thr	Val	Val	Leu	Glu	Gly	Pro	Asp	Gly	Ile	Gly	Lys	Thr	Thr		
	145				150					155					160		
ctt	tta	aga	aaa	gtg	atg	ttg	gac	tgg	gca	gag	gga	aac	tta	tgg	aag	528	
Leu	Leu	Arg	Lys	Val	Met	Leu	Asp	Trp	Ala	Glu	Gly	Asn	Leu	Trp	Lys		
			165					170						175			
gac	agt	tac	aat	gag	aag	ctc	gtc	tac	tgg	cgg	gag	ctt	tgc	tca	atg	576	
Asp	Ser	Tyr	Asn	Glu	Lys	Leu	Val	Tyr	Trp	Arg	Glu	Leu	Cys	Ser	Met		
			180					185					190				
ttc	att	acc	aac	aag	aac	ttc	cag	att	tta	gac	atg	gaa	aat	acc	agc	624	
Phe	Ile	Thr	Asn	Lys	Asn	Phe	Gln	Ile	Leu	Asp	Met	Glu	Asn	Thr	Ser		
	195					200					205						
ctc	gat	gat	ccc	tcc	ctg	gcg	att	ctt	tgc	aaa	gcg	ctg	gct	cag	cct	672	
Leu	Asp	Asp	Pro	Ser	Leu	Ala	Ile	Leu	Cys	Lys	Ala	Leu	Ala	Gln	Pro		
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gtt	tgt	aaa	ctc	cga	aaa	ctc	ata	ttt	act	tct	gtg	tac	ttt	gga	cat	720	
Val	Cys	Lys	Leu	Arg	Lys	Leu	Ile	Phe	Thr	Ser	Val	Tyr	Phe	Gly	His		
	225				230				235					240			
gat	tca	gaa	tta	ttt	aag	gca	gtt	ctt	cac	aac	cct	cat	ctg	aaa	ctt	768	
Asp	Ser	Glu	Leu	Phe	Lys	Ala	Val	Leu	His	Asn	Pro	His	Leu	Lys	Leu		
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ctg	agc	ctg	tac	ggc	act	agc	ctc	tcc	cag	tct	gac	atc	aga	cac	ctg	816	
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			260					265					270				
tgt	gag	acg	ctg	aaa	cat	cca	atg	tgc	aag	ata	gaa	gag	ctg	ata	ctg	864	
Cys	Glu	Thr	Leu	Lys	His	Pro	Met	Cys	Lys	Ile	Glu	Glu	Leu	Ile	Leu		
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gga	aag	tgt	gac	atc	tcc	agt	gaa	gtt	tgt	gaa	gac	atc	gcc	tcc	gtc	912	
Gly	Lys	Cys	Asp	Ile	Ser	Ser	Glu	Val	Cys	Glu	Asp	Ile	Ala	Ser	Val		
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Leu	Ala	Cys	Asn	Ser	Lys	Leu	Lys	His	Leu	Ser	Leu	Val	Glu	Asn	Pro		

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ttg agg gac gaa gga atg acg ttg ctg tgt gaa gcc ctg aag cac tca				1008
Leu Arg Asp Glu Gly Met Thr Leu Leu Cys Glu Ala Leu Lys His Ser				
	325	330	335	
cac tgt gcc ctg gag agg ctg atg ttg atg ggc tgt ttc ctt act tcc				1056
His Cys Ala Leu Glu Arg Leu Met Leu Met Gly Cys Phe Leu Thr Ser				
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gat tcc tgt aag gac att gct gct gtt ctt att tgc aat ggg aaa ctg				1104
Asp Ser Cys Lys Asp Ile Ala Ala Val Leu Ile Cys Asn Gly Lys Leu				
	355	360	365	
aag acc ctg aaa ctt ggg cat aat gaa ata gga gac act ggt gtc aga				1152
Lys Thr Leu Lys Leu Gly His Asn Glu Ile Gly Asp Thr Gly Val Arg				
	370	375	380	
cag tta tgt gca gct ttg cag cat cct cac tgt aaa tta gag tgt ctc				1200
Gln Leu Cys Ala Ala Leu Gln His Pro His Cys Lys Leu Glu Cys Leu				
	385	390	395	400
ggg ctg caa acg tgt ccg atc acc cgt gcc tgc tgc gac gac atc gcc				1248
Gly Leu Gln Thr Cys Pro Ile Thr Arg Ala Cys Cys Asp Asp Ile Ala				
	405	410	415	
gca gca ctc atc gcc tgc aaa aca ctg agg agc ctg aac ctc gac tgg				1296
Ala Ala Leu Ile Ala Cys Lys Thr Leu Arg Ser Leu Asn Leu Asp Trp				
	420	425	430	
att gcc ttg gat gct gat gca gtg gtg gtg ctg tgt gag gca ttg agc				1344
Ile Ala Leu Asp Ala Asp Ala Val Val Val Leu Cys Glu Ala Leu Ser				
	435	440	445	
cac ccg gac tgt gcc ctg cag atg ctg ggg ctg cac aaa tct ggc ttt				1392
His Pro Asp Cys Ala Leu Gln Met Leu Gly Leu His Lys Ser Gly Phe				
	450	455	460	
gat gaa gaa act cag aag atc ctg atg tct gtg gaa gaa aaa att ccc				1440
Asp Glu Glu Thr Gln Lys Ile Leu Met Ser Val Glu Glu Lys Ile Pro				
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cat ctg acc att tca cat gga cct tgg att gac gag gaa tac aag atc				1488
His Leu Thr Ile Ser His Gly Pro Trp Ile Asp Glu Glu Tyr Lys Ile				
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Arg Gly Val Leu Leu				
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<211> 501

<212> PRT

<213> Homo sapiens

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Pro	Leu	Glu 35	Lys	Phe	Glu	Leu	Lys 40	Pro	Ile	Pro	Trp	Ala 45	Glu	Leu	Lys
Lys	Ala 50	Ser	Lys	Glu	Asp 55	Val	Ala	Lys	Leu	Leu	Asp 60	Lys	His	Tyr	Pro
Gly 65	Lys	Gln	Ala	Trp 70	Glu	Val	Thr	Leu	Asn 75	Leu	Phe	Leu	Gln	Ile	Asn 80
Arg	Lys	Asp	Leu 85	Trp	Thr	Lys	Ala	Gln	Glu 90	Glu	Met	Arg	Asn 95	Lys	Leu
Asn	Pro	Tyr	Arg 100	Lys	His	Met	Lys	Glu 105	Thr	Phe	Gln	Leu 110	Ile	Trp	Glu
Lys	Glu	Thr 115	Cys	Leu	His	Val	Pro 120	Glu	His	Phe	Tyr	Lys 125	Glu	Thr	Met
Lys	Asn 130	Glu	Tyr	Lys	Glu	Leu 135	Asn	Asp	Ala	Tyr	Thr 140	Ala	Ala	Ala	Arg
Arg 145	His	Thr	Val	Val	Leu 150	Glu	Gly	Pro	Asp	Gly 155	Ile	Gly	Lys	Thr	Thr 160
Leu	Leu	Arg	Lys 165	Val	Met	Leu	Asp	Trp 170	Ala	Glu	Gly	Asn 175	Leu	Trp	Lys
Asp	Ser	Tyr	Asn 180	Glu	Lys	Leu	Val	Tyr 185	Trp	Arg	Glu	Leu 190	Cys	Ser	Met
Phe	Ile	Thr 195	Asn	Lys	Asn	Phe	Gln 200	Ile	Leu	Asp	Met	Glu 205	Asn	Thr	Ser
Leu	Asp 210	Asp	Pro	Ser	Leu	Ala 215	Ile	Leu	Cys	Lys	Ala 220	Leu	Ala	Gln	Pro
Val 225	Cys	Lys	Leu	Arg	Lys 230	Leu	Ile	Phe	Thr	Ser 235	Val	Tyr	Phe	Gly	His 240
Asp	Ser	Glu	Leu 245	Phe	Lys	Ala	Val	Leu	His 250	Asn	Pro	His	Leu	Lys	Leu
Leu	Ser	Leu	Tyr 260	Gly	Thr	Ser	Leu	Ser 265	Gln	Ser	Asp	Ile 270	Arg	His	Leu
Cys	Glu	Thr 275	Leu	Lys	His	Pro	Met 280	Cys	Lys	Ile	Glu	Glu 285	Leu	Ile	Leu
Gly	Lys 290	Cys	Asp	Ile	Ser	Ser 295	Glu	Val	Cys	Glu	Asp 300	Ile	Ala	Ser	Val
Leu 305	Ala	Cys	Asn	Ser	Lys 310	Leu	Lys	His	Leu	Ser 315	Leu	Val	Glu	Asn	Pro 320
Leu	Arg	Asp	Glu 325	Gly	Met	Thr	Leu	Leu	Cys 330	Glu	Ala	Leu	Lys	His	Ser
His	Cys	Ala 340	Leu	Glu	Arg	Leu	Met 345	Leu	Met	Gly	Cys	Phe 350	Leu	Thr	Ser
Asp	Ser	Cys 355	Lys	Asp	Ile	Ala	Ala 360	Val	Leu	Ile	Cys	Asn 365	Gly	Lys	Leu
Lys	Thr 370	Leu	Lys	Leu	Gly 375	His	Asn	Glu	Ile	Gly	Asp 380	Thr	Gly	Val	Arg
Gln 385	Leu	Cys	Ala	Ala	Leu 390	Gln	His	Pro	His	Cys 395	Lys	Leu	Glu	Cys	Leu
Gly	Leu	Gln	Thr 405	Cys	Pro	Ile	Thr	Arg	Ala 410	Cys	Cys	Asp	Asp	Ile	Ala
Ala	Ala	Leu	Ile 420	Ala	Cys	Lys	Thr	Leu 425	Arg	Ser	Leu	Asn 430	Leu	Asp	Trp
Ile	Ala 435	Leu	Asp	Ala	Asp	Ala 440	Val	Val	Val	Leu	Cys 445	Glu	Ala	Leu	Ser
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Asp Glu Glu Thr Gln Lys Ile Leu Met Ser Val Glu Glu Lys Ile Pro
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Arg Gly Val Leu Leu
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<222> (1)...(330)

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gag ctc aaa aag gag gag ttc agg aaa ttt aaa gaa cat ctc aag caa      96
Glu Leu Lys Lys Glu Glu Phe Arg Lys Phe Lys Glu His Leu Lys Gln
      20              25              30

atg act ttg cag ctt gaa ctc aag cag att ccc tgg act gag gtc aaa      144
Met Thr Leu Gln Leu Glu Leu Lys Gln Ile Pro Trp Thr Glu Val Lys
      35              40              45

aaa gca tcc cgg gaa gaa ctt gca aac ctc ttg atc aag cac tat gaa      192
Lys Ala Ser Arg Glu Glu Leu Ala Asn Leu Leu Ile Lys His Tyr Glu
      50              55              60

gaa caa caa gct tgg aac ata acc tta aga atc ttt caa aag atg gat      240
Glu Gln Gln Ala Trp Asn Ile Thr Leu Arg Ile Phe Gln Lys Met Asp
      65              70              75              80

aga aag gat ctc tgc atg aag gtc atg agg gag aga aca ggt gag gga      288
Arg Lys Asp Leu Cys Met Lys Val Met Arg Glu Arg Thr Gly Glu Gly
      85              90              95

gtc tgg gaa ggg gga agc ctt ctt ata atg agg act atg tcc      330
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taa      333

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<210> 4
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Lys	Ala	Ser	Arg	Glu	Glu	Leu	Ala	Asn	Leu	Leu	Ile	Lys	His	Tyr	Glu	
	50					55					60					
Glu	Gln	Gln	Ala	Trp	Asn	Ile	Thr	Leu	Arg	Ile	Phe	Gln	Lys	Met	Asp	
65					70				75					80		
Arg	Lys	Asp	Leu	Cys	Met	Lys	Val	Met	Arg	Glu	Arg	Thr	Gly	Glu	Gly	
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tgt	ctc	tat	gag	cta	gac	aag	gaa	gaa	ttt	cag	aca	ttc	aag	gaa	tta	96
Cys	Leu	Tyr	Glu	Leu	Asp	Lys	Glu	Glu	Phe	Gln	Thr	Phe	Lys	Glu	Leu	
			20				25					30				

cta	aag	aag	aaa	tct	tca	gaa	tcg	acc	aca	tgc	tct	att	cca	cag	ttt	144
Leu	Lys	Lys	Lys	Ser	Ser	Glu	Ser	Thr	Thr	Cys	Ser	Ile	Pro	Gln	Phe	
		35				40					45					

gaa	atc	gag	aat	gcc	aac	gtg	gaa	tgt	ctg	gca	ctc	ctc	ttg	cat	gag	192
Glu	Ile	Glu	Asn	Ala	Asn	Val	Glu	Cys	Leu	Ala	Leu	Leu	Leu	His	Glu	
	50					55			60							

tat	tat	gga	gca	tcg	ctg	gcc	tgg	gct	acg	tcc	att	agc	atc	ttt	gaa	240
Tyr	Tyr	Gly	Ala	Ser	Leu	Ala	Trp	Ala	Thr	Ser	Ile	Ser	Ile	Phe	Glu	
65				70			75				80					

aac	atg	aac	ctg	cga	acc	ctc	tcg	gag	aag	gca	cgg	gat	gac	atg	aaa	288
Asn	Met	Asn	Leu	Arg	Thr	Leu	Ser	Glu	Lys	Ala	Arg	Asp	Asp	Met	Lys	
			85				90						95			

aaa	att	tca	caa	gct	atg	gaa	caa	gaa	ggg	gcc	aca	gca	gca	gag	aca	336
Lys	Ile	Ser	Gln	Ala	Met	Glu	Gln	Glu	Gly	Ala	Thr	Ala	Ala	Glu	Thr	
			100				105					110				

gaa	gaa	caa	gaa	att	tca	caa	gct	atg	gaa	caa	gaa	ggg	gcc	aca	gca	384
Glu	Glu	Gln	Glu	Ile	Ser	Gln	Ala	Met	Glu	Gln	Glu	Gly	Ala	Thr	Ala	
		115				120					125					

gca	gag	aca	gaa	gaa	caa	gga	cat	gga	ggg	gac	aca	tgg	gac	tac	aag	432
Ala	Glu	Thr	Glu	Glu	Gln	Gly	His	Gly	Gly	Asp	Thr	Trp	Asp	Tyr	Lys	
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Ser His Val Met Thr Lys Phe Ala Glu Glu Glu Asp Val Arg Arg Ser	
145 150 155 160	
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Phe Glu Asn Thr Ala Ala Asp Trp Pro Glu Met Gln Thr Leu Ala Gly	
165 170 175	
gct ttt gat tca gac cgg tgg ggc ttc ccg cct cgc acg gtg gtt ctg	576
Ala Phe Asp Ser Asp Arg Trp Gly Phe Arg Pro Arg Thr Val Val Leu	
180 185 190	
cac gga aag tca gga att ggg aaa tcg gct cta gcc aga agg atc gtg	624
His Gly Lys Ser Gly Ile Gly Lys Ser Ala Leu Ala Arg Arg Ile Val	
195 200 205	
ctg tgc tgg gcg caa ggt gga ctc tac cag gga atg ttc tcc tac gtc	672
Leu Cys Trp Ala Gln Gly Gly Leu Tyr Gln Gly Met Phe Ser Tyr Val	
210 215 220	
ttc ttc ctc ccc gtt aga gag atg cag ccg aag aag gag agc agt gtc	720
Phe Phe Leu Pro Val Arg Glu Met Gln Arg Lys Lys Glu Ser Ser Val	
225 230 235 240	
aca gag ttc atc tcc agg gag tgg cca gac tcc cag gct ccg gtg acg	768
Thr Glu Phe Ile Ser Arg Glu Trp Pro Asp Ser Gln Ala Pro Val Thr	
245 250 255	
gag atc atg tcc cga cca gaa agg ctg ttg ttc atc att gac ggt ttc	816
Glu Ile Met Ser Arg Pro Glu Arg Leu Leu Phe Ile Ile Asp Gly Phe	
260 265 270	
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Asp Asp Leu Gly Ser Val Leu Asn Asn Asp Thr Lys Leu Cys Lys Asp	
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Trp Ala Glu Lys Gln Pro Pro Phe Thr Leu Ile Arg Ser Leu Leu Arg	
290 295 300	
aag gtc ctg ctc cct gag tcc ttc ctg atc gtc acc gtc aga gac gtg	960
Lys Val Leu Leu Pro Glu Ser Phe Leu Ile Val Thr Val Arg Asp Val	
305 310 315 320	
ggc aca gag aag ctc aag tca gag gtc gtg tct ccc cgt tac ctg tta	1008
Gly Thr Glu Lys Leu Lys Ser Glu Val Val Ser Pro Arg Tyr Leu Leu	
325 330 335	
gtt aga gga atc tcc ggg gaa caa aga atc cac ttg ctc ctt gag cgc	1056
Val Arg Gly Ile Ser Gly Glu Gln Arg Ile His Leu Leu Leu Glu Arg	
340 345 350	
ggg att ggt gag cat cag aag aca caa ggg ttg cgt gcg atc atg aac	1104
Gly Ile Gly Glu His Gln Lys Thr Gln Gly Leu Arg Ala Ile Met Asn	
355 360 365	

aac cgt gag ctg ctc gac cag tgc cag gtg ccc gcc gtg ggc tct ctc Asn Arg Glu Leu Leu Asp Gln Cys Gln Val Pro Ala Val Gly Ser Leu 370 375 380	1152
atc tgc gtg gcc ctg cag ctg cag gac gtg gtg ggg gag agc gtc gcc Ile Cys Val Ala Leu Gln Leu Gln Asp Val Val Gly Glu Ser Val Ala 385 390 395 400	1200
ccc ttc aac caa acg ctc aca ggc ctg cac gcc gct ttt gtg ttt cat Pro Phe Asn Gln Thr Leu Thr Gly Leu His Ala Ala Phe Val Phe His 405 410 415	1248
cag ctc acc cct cga ggc gtg gtc cgg cgc tgt ctc aat ctg gag gaa Gln Leu Thr Pro Arg Gly Val Val Arg Arg Cys Leu Asn Leu Glu Glu 420 425 430	1296
aga gtt gtc ctg aag cgc ttc tgc cgt atg gct gtg gag gga gtg tgg Arg Val Val Leu Lys Arg Phe Cys Arg Met Ala Val Glu Gly Val Trp 435 440 445	1344
aat agg aag tca gtg ttt gat ggt gac gac ctc atg gtt caa gga ctc Asn Arg Lys Ser Val Phe Asp Gly Asp Asp Leu Met Val Gln Gly Leu 450 455 460	1392
ggg gag tct gag ctc cgt gct ctg ttt cac atg aac atc ctt ctc cca Gly Glu Ser Glu Leu Arg Ala Leu Phe His Met Asn Ile Leu Leu Pro 465 470 475 480	1440
gac agc cac tgt gag gag tac tac acc ttc ttc cac ctc agt ctc cag Asp Ser His Cys Glu Glu Tyr Tyr Thr Phe Phe His Leu Ser Leu Gln 485 490 495	1488
gac ttc tgt gcc gcc ttg tac tac gtg tta gag ggc ctg gaa atc gag Asp Phe Cys Ala Ala Leu Tyr Tyr Val Leu Glu Gly Leu Glu Ile Glu 500 505 510	1536
cca gct ctc tgc cct ctg tac gtt gag aag aca aag agg tcc atg gag Pro Ala Leu Cys Pro Leu Tyr Val Glu Lys Thr Lys Arg Ser Met Glu 515 520 525	1584
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gtc tct ctg ttg ggt cag cag cct aat gcc acc acc cca gga gac acc Val Ser Leu Leu Gly Gln Gln Pro Asn Ala Thr Thr Pro Gly Asp Thr 580 585 590	1776
ctg gac gcc ttc cac tgt ctt ttc gag act caa gac aaa gag ttt gtt	1824

Leu	Asp	Ala	Phe	His	Cys	Leu	Phe	Glu	Thr	Gln	Asp	Lys	Glu	Phe	Val		
		595					600					605					
cgc	ttg	gca	tta	aac	agc	ttc	caa	gaa	gtg	tgg	ctt	ccg	att	aac	cag	1872	
Arg	Leu	Ala	Leu	Asn	Ser	Phe	Gln	Glu	Val	Trp	Leu	Pro	Ile	Asn	Gln		
	610					615					620						
aac	ctg	gac	ttg	ata	gca	tct	tcc	ttc	tgc	ctc	cag	cac	tgt	ccg	tat	1920	
Asn	Leu	Asp	Leu	Ile	Ala	Ser	Ser	Phe	Cys	Leu	Gln	His	Cys	Pro	Tyr		
	625				630					635					640		
ttg	cgg	aaa	att	cgg	gtg	gat	gtc	aaa	ggg	atc	ttc	cca	aga	gat	gag	1968	
Leu	Arg	Lys	Ile	Arg	Val	Asp	Val	Lys	Gly	Ile	Phe	Pro	Arg	Asp	Glu		
				645					650					655			
tcc	gct	gag	gca	tgt	cct	gtg	gtc	cct	cta	tgg	atg	cgg	gat	aag	acc	2016	
Ser	Ala	Glu	Ala	Cys	Pro	Val	Val	Pro	Leu	Trp	Met	Arg	Asp	Lys	Thr		
			660					665					670				
ctc	att	gag	gag	cag	tgg	gaa	gat	ttc	tgc	tcc	atg	ctt	ggc	acc	cac	2064	
Leu	Ile	Glu	Glu	Gln	Trp	Glu	Asp	Phe	Cys	Ser	Met	Leu	Gly	Thr	His		
		675				680						685					
cca	cac	ctg	cgg	cag	ctg	gac	ctg	ggc	agc	agc	atc	ctg	aca	gag	cgg	2112	
Pro	His	Leu	Arg	Gln	Leu	Asp	Leu	Gly	Ser	Ser	Ile	Leu	Thr	Glu	Arg		
		690				695					700						
gcc	atg	aag	acc	ctg	tgt	gcc	aag	ctg	agg	cat	ccc	acc	tgc	aag	ata	2160	
Ala	Met	Lys	Thr	Leu	Cys	Ala	Lys	Leu	Arg	His	Pro	Thr	Cys	Lys	Ile		
	705				710					715					720		
cag	acc	ctg	atg	ttt	aga	aat	gca	cag	att	acc	cct	ggg	gtg	cag	cac	2208	
Gln	Thr	Leu	Met	Phe	Arg	Asn	Ala	Gln	Ile	Thr	Pro	Gly	Val	Gln	His		
				725					730					735			
ctc	tgg	aga	atc	gtc	atg	gcc	aac	cgt	aac	cta	aga	tcc	ctc	aac	ttg	2256	
Leu	Trp	Arg	Ile	Val	Met	Ala	Asn	Arg	Asn	Leu	Arg	Ser	Leu	Asn	Leu		
			740					745					750				
gga	ggc	acc	cac	ctg	aag	gaa	gag	gat	gta	agg	atg	gcg	tgt	gaa	gcc	2304	
Gly	Gly	Thr	His	Leu	Lys	Glu	Glu	Asp	Val	Arg	Met	Ala	Cys	Glu	Ala		
		755				760					765						
tta	aaa	cac	cca	aaa	tgt	ttg	ttg	gag	tct	ttg	agg	ctg	gat	tgc	tgt	2352	
Leu	Lys	His	Pro	Lys	Cys	Leu	Leu	Glu	Ser	Leu	Arg	Leu	Asp	Cys	Cys		
	770					775					780						
gga	ttg	acc	cat	gcc	tgt	tac	ctg	aag	atc	tcc	caa	atc	ctt	acg	acc	2400	
Gly	Leu	Thr	His	Ala	Cys	Tyr	Leu	Lys	Ile	Ser	Gln	Ile	Leu	Thr	Thr		
	785				790					795					800		
tcc	ccc	agc	ctg	aaa	tct	ctg	agc	ctg	gca	gga	aac	aag	gtg	aca	gac	2448	
Ser	Pro	Ser	Leu	Lys	Ser	Leu	Ser	Leu	Ala	Gly	Asn	Lys	Val	Thr	Asp		
				805					810					815			
cag	gga	gta	atg	cct	ctc	agt	gat	gcc	ttg	aga	gtc	tcc	cag	tgc	gcc	2496	
Gln	Gly	Val	Met	Pro	Leu	Ser	Asp	Ala	Leu	Arg	Val	Ser	Gln	Cys	Ala		

820	825	830	
ctg cag aag ctg ata ctg gag gac tgt ggc atc aca gcc acg ggt tgc Leu Gln Lys Leu Ile Leu Glu Asp Cys Gly Ile Thr Ala Thr Gly Cys 835 840 845			2544
cag agt ctg gcc tca gcc ctc gtc agc aac cgg agc ttg aca cac ctg Gln Ser Leu Ala Ser Ala Leu Val Ser Asn Arg Ser Leu Thr His Leu 850 855 860			2592
tgc cta tcc aac aac agc ctg ggg aac gaa ggt gta aat cta ctg tgt Cys Leu Ser Asn Asn Ser Leu Gly Asn Glu Gly Val Asn Leu Leu Cys 865 870 875 880			2640
cga tcc atg agg ctt ccc cac tgt agt ctg cag agg ctg atg ctg aat Arg Ser Met Arg Leu Pro His Cys Ser Leu Gln Arg Leu Met Leu Asn 885 890 895			2688
cag tgc cac ctg gac acg gct ggc tgt ggt ttt ctt gca ctt gcg ctt Gln Cys His Leu Asp Thr Ala Gly Cys Gly Phe Leu Ala Leu Ala Leu 900 905 910			2736
atg ggt aac tca tgg ctg acg cac ctg agc ctt agc atg aac cct gtg Met Gly Asn Ser Trp Leu Thr His Leu Ser Leu Ser Met Asn Pro Val 915 920 925			2784
gaa gac aat ggc gtg aag ctt ctg tgc gag gtc atg aga gaa cca tct Glu Asp Asn Gly Val Lys Leu Cys Glu Val Met Arg Glu Pro Ser 930 935 940			2832
tgt cat ctc cag gac ctg gag ttg gta aag tgt cat ctc acc gcc gcg Cys His Leu Gln Asp Leu Glu Leu Val Lys Cys His Leu Thr Ala Ala 945 950 955 960			2880
tgc tgt gag agt ctg tcc tgt gtg atc tcg agg agc aga cac ctg aag Cys Cys Glu Ser Leu Ser Cys Val Ile Ser Arg Ser Arg His Leu Lys 965 970 975			2928
agc ctg gat ctc acg gac aat gcc ctg ggt gac ggt ggg gtt gct gcg Ser Leu Asp Leu Thr Asp Asn Ala Leu Gly Asp Gly Gly Val Ala Ala 980 985 990			2976
ctg tgc gag gga ctg aag caa aag aac agt gtt ctg acg aga ctc ggg Leu Cys Glu Gly Leu Lys Gln Lys Asn Ser Val Leu Thr Arg Leu Gly 995 1000 1005			3024
ttg aag gca tgt gga ctg act tct gat tgc tgt gag gca ctc tcc ttg Leu Lys Ala Cys Gly Leu Thr Ser Asp Cys Cys Glu Ala Leu Ser Leu 1010 1015 1020			3072
gcc ctt tcc tgc aac cgg cat ctg acc agt cta aac ctg gtg cag aat Ala Leu Ser Cys Asn Arg His Leu Thr Ser Leu Asn Leu Val Gln Asn 1025 1030 1035 1040			3120
aac ttc agt ccc aaa gga atg atg aag ctg tgt tcg gcc ttt gcc tgt Asn Phe Ser Pro Lys Gly Met Met Lys Leu Cys Ser Ala Phe Ala Cys 1045 1050 1055			3168

ccc acg tct aac tta cag ata att ggg ctg tgg aaa tgg cag tac cct Pro Thr Ser Asn Leu Gln Ile Ile Gly Leu Trp Lys Trp Gln Tyr Pro 1060 1065 1070	3216
gtg caa ata agg aag ctg ctg gag gaa gtg cag cta ctc aag ccc cga Val Gln Ile Arg Lys Leu Leu Glu Glu Val Gln Leu Leu Lys Pro Arg 1075 1080 1085	3264
gtc gta att gac ggt agt tgg cat tct ttt gat gaa gat gac cga cac Val Val Ile Asp Gly Ser Trp His Ser Phe Asp Glu Asp Asp Arg His 1090 1095 1100	3312
aaa ata gga ctt act ttc cgg ctc cct gaa agc cgg gca tgg cca tgt Lys Ile Gly Leu Thr Phe Arg Leu Pro Glu Ser Arg Ala Trp Pro Cys 1105 1110 1115 1120	3360
gcc ttg ctg tgg ggg atg aac cca gag cag aag aag cgt gtg tcg ctt Ala Leu Leu Trp Gly Met Asn Pro Glu Gln Lys Lys Arg Val Ser Leu 1125 1130 1135	3408
ctg gct gga gac ttc aag agc agt aca cga ttt gcc aag tct ctc tgc Leu Ala Gly Asp Phe Lys Ser Ser Thr Arg Phe Ala Lys Ser Leu Cys 1140 1145 1150	3456
ctg gcc acg gca aat ggt gag tcc cag aga gtt gac aac gtg gag cag Leu Ala Thr Ala Asn Gly Glu Ser Gln Arg Val Asp Asn Val Glu Gln 1155 1160 1165	3504
agc tcc ccg caa ccc atg gca ggc acg gaa cac aaa caa gat aaa atg Ser Ser Pro Gln Pro Met Ala Gly Thr Glu His Lys Gln Asp Lys Met 1170 1175 1180	3552
ttg agt gtt gga tat tcc gga gcc tgg tct gaa act gct gag ctc gaa Leu Ser Val Gly Tyr Ser Gly Ala Trp Ser Glu Thr Ala Glu Leu Glu 1185 1190 1195 1200	3600
ggg ctt gga tcc aac agt gct gat cat gac cac gga ggt atg gcc tgg Gly Leu Gly Ser Asn Ser Ala Asp His Asp His Gly Gly Met Ala Trp 1205 1210 1215	3648
tca cta ggg aga gag ctg agc tcg agg ggc ttg tgt cca aca gtg ctg Ser Leu Gly Arg Glu Leu Ser Ser Arg Gly Leu Cys Pro Thr Val Leu 1220 1225 1230	3696
atg acc aca gcg gtg tgt cct ggt cac tgg gag cgg ctg ggc tct agg Met Thr Thr Ala Val Cys Pro Gly His Trp Glu Arg Leu Gly Ser Arg 1235 1240 1245	3744
ggc tgg tgt ctt aac agt gct gat gac cac agc ggt gtg tcc tgg tca Gly Trp Cys Leu Asn Ser Ala Asp Asp His Ser Gly Val Ser Trp Ser 1250 1255 1260	3792
ctg gga gcg gct ggg ctc gag ggg ctt gtg tcc aac agt gct gat gac Leu Gly Ala Ala Gly Leu Glu Gly Leu Val Ser Asn Ser Ala Asp Asp 1265 1270 1275 1280	3840

cac agc ggt gtg gcc tgg tca ctg gga gcg gct ggg ctc gag ggg ctt 3888
 His Ser Gly Val Ala Trp Ser Leu Gly Ala Ala Gly Leu Glu Gly Leu
 1285 1290 1295

gtg tcc aac agt gct gat gac cac agc ggt gtg tcc tgg tca ctg gga 3936
 Val Ser Asn Ser Ala Asp Asp His Ser Gly Val Ser Trp Ser Leu Gly
 1300 1305 1310

gcg gct ggg ctc gag ggg ctt gtg tcc aac agt gct gat gac cac agc 3984
 Ala Ala Gly Leu Glu Gly Leu Val Ser Asn Ser Ala Asp Asp His Ser
 1315 1320 1325

ggt gtg tcc tgg tca ctg gga gcg gct ggg ctc gag ggg ctg gtg tct 4032
 Gly Val Ser Trp Ser Leu Gly Ala Ala Gly Leu Glu Gly Leu Val Ser
 1330 1335 1340

taa 4035

<210> 6
 <211> 1344
 <212> PRT
 <213> Homo sapiens

<400> 6
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 1 5 10 15
 Cys Leu Tyr Glu Leu Asp Lys Glu Glu Phe Gln Thr Phe Lys Glu Leu
 20 25 30
 Leu Lys Lys Lys Ser Ser Glu Ser Thr Thr Cys Ser Ile Pro Gln Phe
 35 40 45
 Glu Ile Glu Asn Ala Asn Val Glu Cys Leu Ala Leu Leu Leu His Glu
 50 55 60
 Tyr Tyr Gly Ala Ser Leu Ala Trp Ala Thr Ser Ile Ser Ile Phe Glu
 65 70 75 80
 Asn Met Asn Leu Arg Thr Leu Ser Glu Lys Ala Arg Asp Asp Met Lys
 85 90 95
 Lys Ile Ser Gln Ala Met Glu Gln Glu Gly Ala Thr Ala Ala Glu Thr
 100 105 110
 Glu Glu Gln Glu Ile Ser Gln Ala Met Glu Gln Glu Gly Ala Thr Ala
 115 120 125
 Ala Glu Thr Glu Glu Gln Gly His Gly Gly Asp Thr Trp Asp Tyr Lys
 130 135 140
 Ser His Val Met Thr Lys Phe Ala Glu Glu Glu Asp Val Arg Arg Ser
 145 150 155 160
 Phe Glu Asn Thr Ala Ala Asp Trp Pro Glu Met Gln Thr Leu Ala Gly
 165 170 175
 Ala Phe Asp Ser Asp Arg Trp Gly Phe Arg Pro Arg Thr Val Val Leu
 180 185 190
 His Gly Lys Ser Gly Ile Gly Lys Ser Ala Leu Ala Arg Arg Ile Val
 195 200 205
 Leu Cys Trp Ala Gln Gly Gly Leu Tyr Gln Gly Met Phe Ser Tyr Val
 210 215 220
 Phe Phe Leu Pro Val Arg Glu Met Gln Arg Lys Lys Glu Ser Ser Val
 225 230 235 240
 Thr Glu Phe Ile Ser Arg Glu Trp Pro Asp Ser Gln Ala Pro Val Thr
 245 250 255
 Glu Ile Met Ser Arg Pro Glu Arg Leu Leu Phe Ile Ile Asp Gly Phe

			260					265				270			
Asp	Asp	Leu	Gly	Ser	Val	Leu	Asn	Asn	Asp	Thr	Lys	Leu	Cys	Lys	Asp
		275					280					285			
Trp	Ala	Glu	Lys	Gln	Pro	Pro	Phe	Thr	Leu	Ile	Arg	Ser	Leu	Leu	Arg
	290					295					300				
Lys	Val	Leu	Leu	Pro	Glu	Ser	Phe	Leu	Ile	Val	Thr	Val	Arg	Asp	Val
305					310					315					320
Gly	Thr	Glu	Lys	Leu	Lys	Ser	Glu	Val	Val	Ser	Pro	Arg	Tyr	Leu	Leu
				325					330					335	
Val	Arg	Gly	Ile	Ser	Gly	Glu	Gln	Arg	Ile	His	Leu	Leu	Leu	Glu	Arg
			340					345					350		
Gly	Ile	Gly	Glu	His	Gln	Lys	Thr	Gln	Gly	Leu	Arg	Ala	Ile	Met	Asn
		355					360					365			
Asn	Arg	Glu	Leu	Leu	Asp	Gln	Cys	Gln	Val	Pro	Ala	Val	Gly	Ser	Leu
	370					375					380				
Ile	Cys	Val	Ala	Leu	Gln	Leu	Gln	Asp	Val	Val	Gly	Glu	Ser	Val	Ala
385					390					395					400
Pro	Phe	Asn	Gln	Thr	Leu	Thr	Gly	Leu	His	Ala	Ala	Phe	Val	Phe	His
				405					410					415	
Gln	Leu	Thr	Pro	Arg	Gly	Val	Val	Arg	Arg	Cys	Leu	Asn	Leu	Glu	Glu
			420					425					430		
Arg	Val	Val	Leu	Lys	Arg	Phe	Cys	Arg	Met	Ala	Val	Glu	Gly	Val	Trp
		435					440					445			
Asn	Arg	Lys	Ser	Val	Phe	Asp	Gly	Asp	Asp	Leu	Met	Val	Gln	Gly	Leu
	450					455					460				
Gly	Glu	Ser	Glu	Leu	Arg	Ala	Leu	Phe	His	Met	Asn	Ile	Leu	Leu	Pro
465					470					475					480
Asp	Ser	His	Cys	Glu	Tyr	Tyr	Thr	Phe	His	Phe	His	Leu	Ser	Leu	Gln
				485				490						495	
Asp	Phe	Cys	Ala	Ala	Leu	Tyr	Tyr	Val	Leu	Glu	Gly	Leu	Glu	Ile	Glu
			500					505					510		
Pro	Ala	Leu	Cys	Pro	Leu	Tyr	Val	Glu	Lys	Thr	Lys	Arg	Ser	Met	Glu
		515					520					525			
Leu	Lys	Gln	Ala	Gly	Phe	His	Ile	His	Ser	Leu	Trp	Met	Lys	Arg	Phe
	530					535					540				
Leu	Phe	Gly	Leu	Val	Ser	Glu	Asp	Val	Arg	Arg	Pro	Leu	Glu	Val	Leu
545					550					555					560
Leu	Gly	Cys	Pro	Val	Pro	Leu	Gly	Val	Lys	Gln	Lys	Leu	Leu	His	Trp
				565					570					575	
Val	Ser	Leu	Leu	Gly	Gln	Gln	Pro	Asn	Ala	Thr	Thr	Pro	Gly	Asp	Thr
			580					585					590		
Leu	Asp	Ala	Phe	His	Cys	Leu	Phe	Glu	Thr	Gln	Asp	Lys	Glu	Phe	Val
		595					600					605			
Arg	Leu	Ala	Leu	Asn	Ser	Phe	Gln	Glu	Val	Trp	Leu	Pro	Ile	Asn	Gln
	610														

Gln Thr Leu Met Phe Arg Asn Ala Gln Ile Thr Pro Gly Val Gln His
 725 730 735
 Leu Trp Arg Ile Val Met Ala Asn Arg Asn Leu Arg Ser Leu Asn Leu
 740 745 750
 Gly Gly Thr His Leu Lys Glu Glu Asp Val Arg Met Ala Cys Glu Ala
 755 760 765
 Leu Lys His Pro Lys Cys Leu Leu Glu Ser Leu Arg Leu Asp Cys Cys
 770 775 780
 Gly Leu Thr His Ala Cys Tyr Leu Lys Ile Ser Gln Ile Leu Thr Thr
 785 790 795 800
 Ser Pro Ser Leu Lys Ser Leu Ser Leu Ala Gly Asn Lys Val Thr Asp
 805 810 815
 Gln Gly Val Met Pro Leu Ser Asp Ala Leu Arg Val Ser Gln Cys Ala
 820 825 830
 Leu Gln Lys Leu Ile Leu Glu Asp Cys Gly Ile Thr Ala Thr Gly Cys
 835 840 845
 Gln Ser Leu Ala Ser Ala Leu Val Ser Asn Arg Ser Leu Thr His Leu
 850 855 860
 Cys Leu Ser Asn Asn Ser Leu Gly Asn Glu Gly Val Asn Leu Leu Cys
 865 870 875 880
 Arg Ser Met Arg Leu Pro His Cys Ser Leu Gln Arg Leu Met Leu Asn
 885 890 895
 Gln Cys His Leu Asp Thr Ala Gly Cys Gly Phe Leu Ala Leu Ala Leu
 900 905 910
 Met Gly Asn Ser Trp Leu Thr His Leu Ser Leu Ser Met Asn Pro Val
 915 920 925
 Glu Asp Asn Gly Val Lys Leu Leu Cys Glu Val Met Arg Glu Pro Ser
 930 935 940
 Cys His Leu Gln Asp Leu Glu Leu Val Lys Cys His Leu Thr Ala Ala
 945 950 955 960
 Cys Cys Glu Ser Leu Ser Cys Val Ile Ser Arg Ser Arg His Leu Lys
 965 970 975
 Ser Leu Asp Leu Thr Asp Asn Ala Leu Gly Asp Gly Gly Val Ala Ala
 980 985 990
 Leu Cys Glu Gly Leu Lys Gln Lys Asn Ser Val Leu Thr Arg Leu Gly
 995 1000 1005
 Leu Lys Ala Cys Gly Leu Thr Ser Asp Cys Cys Glu Ala Leu Ser Leu
 1010 1015 1020
 Ala Leu Ser Cys Asn Arg His Leu Thr Ser Leu Asn Leu Val Gln Asn
 1025 1030 1035 1040
 Asn Phe Ser Pro Lys Gly Met Met Lys Leu Cys Ser Ala Phe Ala Cys
 1045 1050 1055
 Pro Thr Ser Asn Leu Gln Ile Ile Gly Leu Trp Lys Trp Gln Tyr Pro
 1060 1065 1070
 Val Gln Ile Arg Lys Leu Leu Glu Val Gln Leu Leu Lys Pro Arg
 1075 1080 1085
 Val Val Ile Asp Gly Ser Trp His Ser Phe Asp Glu Asp Asp Arg His
 1090 1095 1100
 Lys Ile Gly Leu Thr Phe Arg Leu Pro Glu Ser Arg Ala Trp Pro Cys
 1105 1110 1115 1120
 Ala Leu Leu Trp Gly Met Asn Pro Glu Gln Lys Lys Arg Val Ser Leu
 1125 1130 1135
 Leu Ala Gly Asp Phe Lys Ser Ser Thr Arg Phe Ala Lys Ser Leu Cys
 1140 1145 1150
 Leu Ala Thr Ala Asn Gly Glu Ser Gln Arg Val Asp Asn Val Glu Gln
 1155 1160 1165
 Ser Ser Pro Gln Pro Met Ala Gly Thr Glu His Lys Gln Asp Lys Met

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      1170      1175      1180
Leu Ser Val Gly Tyr Ser Gly Ala Trp Ser Glu Thr Ala Glu Leu Glu
1185      1190      1195      1200
Gly Leu Gly Ser Asn Ser Ala Asp His Asp His Gly Gly Met Ala Trp
      1205      1210      1215
Ser Leu Gly Arg Glu Leu Ser Ser Arg Gly Leu Cys Pro Thr Val Leu
      1220      1225      1230
Met Thr Thr Ala Val Cys Pro Gly His Trp Glu Arg Leu Gly Ser Arg
      1235      1240      1245
Gly Trp Cys Leu Asn Ser Ala Asp Asp His Ser Gly Val Ser Trp Ser
      1250      1255      1260
Leu Gly Ala Ala Gly Leu Glu Gly Leu Val Ser Asn Ser Ala Asp Asp
1265      1270      1275      1280
His Ser Gly Val Ala Trp Ser Leu Gly Ala Ala Gly Leu Glu Gly Leu
      1285      1290      1295
Val Ser Asn Ser Ala Asp Asp His Ser Gly Val Ser Trp Ser Leu Gly
      1300      1305      1310
Ala Ala Gly Leu Glu Gly Leu Val Ser Asn Ser Ala Asp Asp His Ser
      1315      1320      1325
Gly Val Ser Trp Ser Leu Gly Ala Ala Gly Leu Glu Gly Leu Val Ser
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<210> 7
<211> 294
<212> DNA
<213> Homo sapiens

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<220>
<221> CDS
<222> (1)...(291)

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  1              5              10              15

cag ctc agc cag gat gag ttg agc aag ttc aag tct ctg atc aga aca      96
Gln Leu Ser Gln Asp Glu Leu Ser Lys Phe Lys Ser Leu Ile Arg Thr
      20              25              30

atc tcc ctg gga aag gag cta cag acc gtc ccc cag aca gag gta gac      144
Ile Ser Leu Gly Lys Glu Leu Gln Thr Val Pro Gln Thr Glu Val Asp
      35              40              45

aag gct aat ggg aag caa ctg gta gaa atc ttc acc agc cac tcc tgc      192
Lys Ala Asn Gly Lys Gln Leu Val Glu Ile Phe Thr Ser His Ser Cys
      50              55              60

agc tac tgg gca ggg atg gca gcc atc cag gtc ttt gaa aag atg aat      240
Ser Tyr Trp Ala Gly Met Ala Ala Ile Gln Val Phe Glu Lys Met Asn
      65              70              75              80

cga acg cat ctg tct ggg aga gct gat gaa cac tgt gtg atg ccc cca      288
Arg Thr His Leu Ser Gly Arg Ala Asp Glu His Cys Val Met Pro Pro
      85              90              95

cct taa      294

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Pro

<210> 8
 <211> 97
 <212> PRT
 <213> Homo sapiens

<400> 8
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 Gln Leu Ser Gln Asp Glu Leu Ser Lys Phe Lys Ser Leu Ile Arg Thr
 20 25 30
 Ile Ser Leu Gly Lys Glu Leu Gln Thr Val Pro Gln Thr Glu Val Asp
 35 40 45
 Lys Ala Asn Gly Lys Gln Leu Val Glu Ile Phe Thr Ser His Ser Cys
 50 55 60
 Ser Tyr Trp Ala Gly Met Ala Ala Ile Gln Val Phe Glu Lys Met Asn
 65 70 75 80
 Arg Thr His Leu Ser Gly Arg Ala Asp Glu His Cys Val Met Pro Pro
 85 90 95
 Pro

<210> 9
 <211> 425
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (270)...(425)

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 gtgaggtatg ggctaagaga gcccaaactt ggacctgtag agctgtcgga ccaggaaagg 120
 ggatctgttt cgtctcagtc ccagggcttt gcttactggg ctcttgatc aaggagactt 180
 gagttctcgc tgcctcacct ccagctcccc aagtctgaac tgtggtcact ggtcttctgg 240
 tctggacttg atccttcccc cagatcacc atg gcc atg gcc aag gcc aga aag 293
 Met Ala Met Ala Lys Ala Arg Lys
 1 5
 ccc cgg gag gca ttg ctc tgg gcc ttg agt gac ctt gag gag aac gat 341
 Pro Arg Glu Ala Leu Leu Trp Ala Leu Ser Asp Leu Glu Glu Asn Asp
 10 15 20
 ttc aag aag tta aag ttc tac tta cgg gat atg acc ctg tct gag ggg 389
 Phe Lys Lys Leu Lys Phe Tyr Leu Arg Asp Met Thr Leu Ser Glu Gly
 25 30 35 40
 cca gcc ccc act ggc cag agg ggg agt ttg gag ggg 425
 Pro Ala Pro Thr Gly Gln Arg Gly Ser Leu Glu Gly
 45 50

<210> 10

<211> 52
 <212> PRT
 <213> Homo sapiens

<400> 10
 Met Ala Met Ala Lys Ala Arg Lys Pro Arg Glu Ala Leu Leu Trp Ala
 1 5 10 15
 Leu Ser Asp Leu Glu Glu Asn Asp Phe Lys Lys Leu Lys Phe Tyr Leu
 20 25 30
 Arg Asp Met Thr Leu Ser Glu Gly Pro Ala Pro Thr Gly Gln Arg Gly
 35 40 45
 Ser Leu Glu Gly
 50

<210> 11
 <211> 156
 <212> DNA
 <213> Homo sapiens

<400> 11
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 gaggagaacg atttcaagaa gttaaagttc tacttacggg atatgaccct gtctgagggg 120
 ccagccccca ctggccagag ggggagtttg gagggg 156

<210> 12
 <211> 1968
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)...(1965)

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 Met Ala Met Ala Lys Ala Arg Lys Pro Arg Glu Ala Leu Leu Trp Ala
 1 5 10 15
 ttg agt gac ctt gag gag aac gat ttc aag aag tta aag ttc tac tta 96
 Leu Ser Asp Leu Glu Glu Asn Asp Phe Lys Lys Leu Lys Phe Tyr Leu
 20 25 30
 cgg gat atg acc ctg tct gag ggc cag ccc cca ctg gcc aga ggg gag 144
 Arg Asp Met Thr Leu Ser Glu Gly Gln Pro Pro Leu Ala Arg Gly Glu
 35 40 45
 ttg gag ggc ctg att ccg gtg gac ctg gca gaa tta ctg att tca aag 192
 Leu Glu Gly Leu Ile Pro Val Asp Leu Ala Glu Leu Leu Ile Ser Lys
 50 55 60
 tat gga gaa aag gag gct gtg aaa gtt gtc ctc aag ggc ttg aag gtc 240
 Tyr Gly Glu Lys Glu Ala Val Lys Val Val Leu Lys Gly Leu Lys Val
 65 70 75 80
 atg aac ctg ttg gaa ctt gtg gac cag ctc agc cat att tgt ctg cat 288
 Met Asn Leu Leu Glu Leu Val Asp Gln Leu Ser His Ile Cys Leu His
 85 90 95

gat tac aga gaa gta tac cga gag cat gtg cgc tgc cta gag gaa tgg	336
Asp Tyr Arg Glu Val Tyr Arg Glu His Val Arg Cys Leu Glu Glu Trp	
100 105 110	
cag gaa gca gga gtc aat ggc aga tac aac cag gtg ctc ctg gtg gcc	384
Gln Glu Ala Gly Val Asn Gly Arg Tyr Asn Gln Val Leu Leu Val Ala	
115 120 125	
aag ccc agc tca gag agc cca gaa tca ctt gcc tgc ccc ttc ccg gag	432
Lys Pro Ser Ser Glu Ser Pro Glu Ser Leu Ala Cys Pro Phe Pro Glu	
130 135 140	
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Gly Thr Leu Tyr Pro Gly Arg Phe Asp Tyr Val Phe Tyr Val Ser Cys	
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Trp Cys Cys Gly Asp Asn Gln Ala Pro Val Thr Glu Ile Leu Arg Gln	
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Pro Glu Arg Leu Leu Phe Ile Leu Asp Gly Phe Asp Glu Leu Gln Arg	
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Pro Phe Glu Glu Lys Leu Lys Lys Arg Gly Leu Ser Pro Lys Glu Ser	
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Leu Leu His Leu Leu Ile Arg Arg His Thr Leu Pro Thr Cys Ser Leu	
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Leu Ile Thr Thr Arg Pro Leu Ala Leu Arg Asn Leu Glu Pro Leu Leu	
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Ala Arg Tyr Phe Ser Ser Tyr Phe Thr Asp Glu Lys Gln Ala Asp Arg	
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Ala Phe Asp Ile Val Gln Lys Asn Asp Ile Leu Tyr Lys Ala Cys Gln	
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Cys Ser Glu Leu Ser Arg His Arg Val Leu Arg Ser Leu Cys Ser Leu	
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Lys	Pro	Ser	Leu	Ala	Pro	Ser	Leu	Val	Val	Leu	Gln	Gly	Ser	Ala	Gly	
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Tyr Arg Asp Tyr Val Arg Arg Lys Phe Arg Leu Met Glu Asp Arg Asn
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Pro Ile Lys Ile Glu Thr Leu Phe Glu Pro Asp Glu Glu Arg Pro Glu	
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Pro Pro Arg Thr Val Val Met Gln Gly Ala Ala Gly Ile Gly Lys Ser	
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tac cga aat gcc ctg ggc agc cgg ggg gtg aag ctg ctc tgt caa gga Tyr Arg Asn Ala Leu Gly Ser Arg Gly Val Lys Leu Leu Cys Gln Gly 725 730 735			2208
ctc aga cac ccc aac tgc aaa ctt cag aac ctg agg ctg aag agg tgc Leu Arg His Pro Asn Cys Lys Leu Gln Asn Leu Arg Leu Lys Arg Cys 740 745 750			2256
cgc atc tcc agc tca gcc tgc gag gac ctc tct gca gct ctc ata gcc Arg Ile Ser Ser Ser Ala Cys Glu Asp Leu Ser Ala Ala Leu Ile Ala 755 760 765			2304
aat aag aat ttg aca agg atg gat ctc agt ggc aac ggc gtt gga ttc Asn Lys Asn Leu Thr Arg Met Asp Leu Ser Gly Asn Gly Val Gly Phe 770 775 780			2352
cca ggc atg atg ctg ctt tgc gag ggc ctg cgg cat ccc caa tgc agg Pro Gly Met Met Leu Cys Glu Gly Leu Arg His Pro Gln Cys Arg 785 790 795 800			2400
ctg cag atg att cag ttg agg aag tgt cag ctg gag tcc ggg gct tgt Leu Gln Met Ile Gln Leu Arg Lys Cys Gln Leu Glu Ser Gly Ala Cys 805 810 815			2448
cag gag atg gct tct gtg ctt ggc acc aac cca cat ctg gtt gag ttg Gln Glu Met Ala Ser Val Leu Gly Thr Asn Pro His Leu Val Glu Leu 820 825 830			2496
gac ctg aca gga aat gca ctg gag gat ttg ggc ctg agg tta cta tgc Asp Leu Thr Gly Asn Ala Leu Glu Asp Leu Gly Leu Arg Leu Leu Cys 835 840 845			2544

cag gga ctg agg cac cca gtc tgc aga cta cgg act ttg tgg ctg aag Gln Gly Leu Arg His Pro Val Cys Arg Leu Arg Thr Leu Trp Leu Lys 850 855 860	2592
atc tgc cgc ctc act gct gct gcc tgt gac gag ctg gcc tca act ctc Ile Cys Arg Leu Thr Ala Ala Ala Cys Asp Glu Leu Ala Ser Thr Leu 865 870 875 880	2640
agt gtg aac cag agc ctg aga gag ctg gac ctg agc ctg aat gag ctg Ser Val Asn Gln Ser Leu Arg Glu Leu Asp Leu Ser Leu Asn Glu Leu 885 890 895	2688
ggg gac ctc ggg gtg ctg ctg ctg tgt gag ggc ctc agg cat ccc acg Gly Asp Leu Gly Val Leu Leu Leu Cys Glu Gly Leu Arg His Pro Thr 900 905 910	2736
tgc aag ctc cag acc ctg cgg ttg ggc atc tgc cgg ctg ggc tct gcc Cys Lys Leu Gln Thr Leu Arg Leu Gly Ile Cys Arg Leu Gly Ser Ala 915 920 925	2784
gcc tgt gag ggt ctt tct gtg gtg ctc cag gcc aac cac aac ctc cgg Ala Cys Glu Gly Leu Ser Val Val Leu Gln Ala Asn His Asn Leu Arg 930 935 940	2832
gag ctg gac ttg agt ttc aac gac ctg gga gac tgg ggc ctg tgg ttg Glu Leu Asp Leu Ser Phe Asn Asp Leu Gly Asp Trp Gly Leu Trp Leu 945 950 955 960	2880
ctg gct gag ggg ctg caa cat ccc gcc tgc aga ctc cag aaa ctg tgg Leu Ala Glu Gly Leu Gln His Pro Ala Cys Arg Leu Gln Lys Leu Trp 965 970 975	2928
ctg gat agc tgt ggc ctc aca gcc aag gct tgt gag aat ctt tac ttc Leu Asp Ser Cys Gly Leu Thr Ala Lys Ala Cys Glu Asn Leu Tyr Phe 980 985 990	2976
acc ctg ggg atc aac cag acc ttg acc gac ctt tac ctg acc aac aac Thr Leu Gly Ile Asn Gln Thr Leu Thr Asp Leu Tyr Leu Thr Asn Asn 995 1000 1005	3024
gcc cta ggg gac aca ggt gtc cga ctg ctt tgc aag cgg ctg agc cat Ala Leu Gly Asp Thr Gly Val Arg Leu Leu Cys Lys Arg Leu Ser His 1010 1015 1020	3072
cct ggc tgc aaa ctc cga gtc ctc tgg tta ttt ggg atg gac ctg aat Pro Gly Cys Lys Leu Arg Val Leu Trp Leu Phe Gly Met Asp Leu Asn 1025 1030 1035 1040	3120
aaa atg acc cac agt agg ttg gca gcg ctt cga gta aca aaa cct tat Lys Met Thr His Ser Arg Leu Ala Ala Leu Arg Val Thr Lys Pro Tyr 1045 1050 1055	3168
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			20					25					30		
Gly	Thr	Ala	Thr	Glu	Leu	Gly	Glu	Gly	Lys	Ile	Pro	Trp	Gly	Ser	Met
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Glu	Lys	Ala	Gly	Pro	Leu	Glu	Met	Ala	Gln	Leu	Leu	Ile	Thr	His	Phe
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Gly	Pro	Glu	Glu	Ala	Trp	Arg	Leu	Ala	Leu	Ser	Thr	Phe	Glu	Arg	Ile
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Asn	Arg	Lys	Asp	Leu	Trp	Glu	Arg	Gly	Gln	Arg	Glu	Asp	Leu	Val	Arg
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Asp	Thr	Pro	Pro	Gly	Gly	Pro	Ser	Ser	Leu	Gly	Asn	Gln	Ser	Thr	Cys
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Leu	Leu	Glu	Val	Ser	Leu	Val	Thr	Pro	Arg	Lys	Asp	Pro	Gln	Glu	Thr
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Tyr	Arg	Asp	Tyr	Val	Arg	Arg	Lys	Phe	Arg	Leu	Met	Glu	Asp	Arg	Asn
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Ala	Arg	Leu	Gly	Glu	Cys	Val	Asn	Leu	Ser	His	Arg	Tyr	Thr	Arg	Leu
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Leu	Leu	Val	Lys	Glu	His	Ser	Asn	Pro	Met	Gln	Val	Gln	Gln	Gln	Leu
			165						170					175	
Leu	Asp	Thr	Gly	Arg	Gly	His	Ala	Arg	Thr	Val	Gly	His	Gln	Ala	Ser
			180					185					190		
Pro	Ile	Lys	Ile	Glu	Thr	Leu	Phe	Glu	Pro	Asp	Glu	Glu	Arg	Pro	Glu
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Pro	Pro	Arg	Thr	Val	Val	Met	Gln	Gly	Ala	Ala	Gly	Ile	Gly	Lys	Ser
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Met	Leu	Ala	His	Lys	Val	Met	Leu	Asp	Trp	Ala	Asp	Gly	Lys	Leu	Phe
225					230					235					240
Gln	Gly	Arg	Phe	Asp	Tyr	Leu	Phe	Tyr	Ile	Asn	Cys	Arg	Glu	Met	Asn
			245						250					255	
Gln	Ser	Ala	Thr	Glu	Cys	Ser	Met	Gln	Asp	Leu	Ile	Phe	Ser	Cys	Trp
		260						265					270		
Pro	Glu	Pro	Ser	Ala	Pro	Leu	Gln	Glu	Leu	Ile	Arg	Val	Pro	Glu	Arg
		275					280					285			
Leu	Leu	Phe	Ile	Ile	Asp	Gly	Phe	Asp	Glu	Leu	Lys	Pro	Ser	Phe	His
	290					295					300				
Asp	Pro	Gln	Gly	Pro	Trp	Cys	Leu	Cys	Trp	Glu	Glu	Lys	Arg	Pro	Thr
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Glu	Leu	Leu	Leu	Asn	Ser	Leu	Ile	Arg	Lys	Lys	Leu	Leu	Pro	Glu	Leu
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Ser	Leu	Leu	Ile	Thr	Thr	Arg	Pro	Thr	Ala	Leu	Glu	Lys	Leu	His	Arg
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Leu	Leu	Glu	His	Pro	Arg	His	Val	Glu	Ile	Leu	Gly	Phe	Ser	Glu	Ala
		355					360					365			
Glu	Arg	Lys	Glu	Tyr	Phe	Tyr	Lys	Tyr	Phe	His	Asn	Ala	Glu	Gln	Ala
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850		855		860
Ile Cys Arg Leu Thr	Ala Ala Ala Cys Asp Glu	Leu Ala Ser Thr	Leu	
865	870	875	880	
Ser Val Asn Gln Ser	Leu Arg Glu Leu Asp	Leu Ser Leu Asn Glu	Leu	
	885	890	895	
Gly Asp Leu Gly Val	Leu Leu Leu Cys Glu Gly	Leu Arg His Pro	Thr	
	900	905	910	
Cys Lys Leu Gln Thr	Leu Arg Leu Gly Ile Cys Arg	Leu Gly Ser Ala		
	915	920	925	
Ala Cys Glu Gly Leu	Ser Val Val Leu Gln Ala Asn His	Asn Leu Arg		
	930	935	940	
Glu Leu Asp Leu Ser	Phe Asn Asp Leu Gly Asp	Trp Gly Leu Trp	Leu	
945	950	955	960	
Leu Ala Glu Gly Leu	Gln His Pro Ala Cys Arg	Leu Gln Lys Leu	Trp	
	965	970	975	
Leu Asp Ser Cys Gly	Leu Thr Ala Lys Ala Cys Glu	Asn Leu Tyr Phe		
	980	985	990	
Thr Leu Gly Ile Asn	Gln Thr Leu Thr Asp	Leu Tyr Leu Thr	Asn Asn	
	995	1000	1005	
Ala Leu Gly Asp Thr	Gly Val Arg Leu Leu Cys Lys Arg	Leu Ser His		
	1010	1015	1020	
Pro Gly Cys Lys Leu	Arg Val Leu Trp Leu Phe Gly Met	Asp Leu Asn		
1025	1030	1035	1040	
Lys Met Thr His Ser	Arg Leu Ala Ala Leu Arg	Val Thr Lys Pro	Tyr	
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tcc tcc act cac agt tct cat att ctg ccc tgg aca ttc tct tgc tac	96
Ser Ser Thr His Ser Ser His Ile Leu Pro Trp Thr Phe Ser Cys Tyr	
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ccc ggc tcc cca tgt gaa aat ggg gtc atg ctg tac atg aga aac gtg	144
Pro Gly Ser Pro Cys Glu Asn Gly Val Met Leu Tyr Met Arg Asn Val	
35 40 45	
agc cat gag gag cta caa cgg ttc aag cag ctc tta ctg act gag ctc	192
Ser His Glu Glu Leu Gln Arg Phe Lys Gln Leu Leu Leu Thr Glu Leu	
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agt act ggc acc atg ccc atc acc tgg gac cag gtc gag aca gcc agc	240
Ser Thr Gly Thr Met Pro Ile Thr Trp Asp Gln Val Glu Thr Ala Ser	
65 70 75 80	

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Trp Ala Glu Val Val His Leu Leu Ile Glu Arg Phe Pro Gly Arg Arg	
85 90 95	
gct tgg gat gtg act tcg aac atc ttt gcc att atg aac tgt gat aaa	336
Ala Trp Asp Val Thr Ser Asn Ile Phe Ala Ile Met Asn Cys Asp Lys	
100 105 110	
att ggg gtc ccg cag tta ttc tac tgt ctg cat gaa atc cgg gag gaa	384
Ile Gly Val Pro Gln Leu Phe Tyr Cys Leu His Glu Ile Arg Glu Glu	
115 120 125	
gcc ttt gta agc caa gcc tta aat gat tat cat aaa gtt gtc ttg aga	432
Ala Phe Val Ser Gln Ala Leu Asn Asp Tyr His Lys Val Val Leu Arg	
130 135 140	
att ggc aac aac aaa gaa gtt caa gtg tct gct ttt tgc ctg aag cgg	480
Ile Gly Asn Asn Lys Glu Val Gln Val Ser Ala Phe Cys Leu Lys Arg	
145 150 155 160	
tgt caa tat ttg cat gag gtg gaa ctg acc gtc acc ctg aac ttc atg	528
Cys Gln Tyr Leu His Glu Val Glu Leu Thr Val Thr Leu Asn Phe Met	
165 170 175	
aac gtg tgg aag ctc agc tcc agc tcc cat cct ggc tct gac cta agg	576
Asn Val Trp Lys Leu Ser Ser Ser Ser His Pro Gly Ser Asp Leu Arg	
180 185 190	
cgt gtg aat agc acc atg ttg aac cag gac tta atc ggt gtt ttg acg	624
Arg Val Asn Ser Thr Met Leu Asn Gln Asp Leu Ile Gly Val Leu Thr	
195 200 205	
ggg aac cag cat ctg aga tac ttg gaa ata caa cat gtg gaa gtg gag	672
Gly Asn Gln His Leu Arg Tyr Leu Glu Ile Gln His Val Glu Val Glu	
210 215 220	
tcc aag gct gtg aag ctt cta tgc agg gcg ctg aga tcc ccc cgg tgc	720
Ser Lys Ala Val Lys Leu Leu Cys Arg Ala Leu Arg Ser Pro Arg Cys	
225 230 235 240	
cgt ctg cag tgt ctc agg ttg gaa gac tgc ttg gcc acc cct aga att	768
Arg Leu Gln Cys Leu Arg Leu Glu Asp Cys Leu Ala Thr Pro Arg Ile	
245 250 255	
tgg act gat ctt ggc aat aat ctt caa ggt aac ggg cat cta aag act	816
Trp Thr Asp Leu Gly Asn Asn Leu Gln Gly Asn Gly His Leu Lys Thr	
260 265 270	
ctc ata cta aga aaa aac tcc ctg gag aac tgt ggg gcg tat tac ctg	864
Leu Ile Leu Arg Lys Asn Ser Leu Glu Asn Cys Gly Ala Tyr Tyr Leu	
275 280 285	
tct gtg gcc cag ctg gag agg ctg tcg cag agt aag atg ctg acc cac	912
Ser Val Ala Gln Leu Glu Arg Leu Ser Gln Ser Lys Met Leu Thr His	
290 295 300	

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 Leu Ser Leu Ala Glu Asn Ala Leu Lys Asp Glu Gly Ala Lys His Ile
 305 310 315 320

tgg aat gcc ctg cca cac ctg aga tgt cct ctg cag agg ctg gta ctg 1008
 Trp Asn Ala Leu Pro His Leu Arg Cys Pro Leu Gln Arg Leu Val Leu
 325 330 335

aga aag tgt gac ttg acc ttt aat tgc tgt cag gat atg atc tct gcg 1056
 Arg Lys Cys Asp Leu Thr Phe Asn Cys Cys Gln Asp Met Ile Ser Ala
 340 345 350

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 355 360 365

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 370 375 380

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 Asp Cys Thr Leu Gln Ile Leu Glu Leu Glu Asn Cys Leu Phe Thr Ser
 385 390 395 400

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 Ile Cys Cys Gln Ala Met Ala Ser Met Leu Arg Lys Asn Gln His Leu
 405 410 415

aga cat ctg gac ttg agc aag aat gcg att gga gtc tat ggt att ctg 1296
 Arg His Leu Asp Leu Ser Lys Asn Ala Ile Gly Val Tyr Gly Ile Leu
 420 425 430

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 Thr Leu Cys Glu Ala Phe Ser Ser Gln Lys Lys Arg Glu Glu Val Ile
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ttc tgt att cct gcc tgg act cga ata act agc ttc tcc cca act cct 1392
 Phe Cys Ile Pro Ala Trp Thr Arg Ile Thr Ser Phe Ser Pro Thr Pro
 450 455 460

cac cca ccc gac ttc acg gga aaa agt gac tgc cta tcc cag att aat 1440
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cct tag 1446
 Pro

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Pro	Gly	Ser	Pro	Cys	Glu	Asn	Gly	Val	Met	Leu	Tyr	Met	Arg	Asn	Val
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Ser	His	Glu	Glu	Leu	Gln	Arg	Phe	Lys	Gln	Leu	Leu	Leu	Thr	Glu	Leu
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Ser	Thr	Gly	Thr	Met	Pro	Ile	Thr	Trp	Asp	Gln	Val	Glu	Thr	Ala	Ser
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Trp	Ala	Glu	Val	Val	His	Leu	Leu	Ile	Glu	Arg	Phe	Pro	Gly	Arg	Arg
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Ala	Trp	Asp	Val	Thr	Ser	Asn	Ile	Phe	Ala	Ile	Met	Asn	Cys	Asp	Lys
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Ile	Gly	Val	Pro	Gln	Leu	Phe	Tyr	Cys	Leu	His	Glu	Ile	Arg	Glu	Glu
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Cys	Gln	Tyr	Leu	His	Glu	Val	Glu	Leu	Thr	Val	Thr	Leu	Asn	Phe	Met
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Asn	Val	Trp	Lys	Leu	Ser	Ser	Ser	Ser	His	Pro	Gly	Ser	Asp	Leu	Arg
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Trp	Asn	Ala	Leu	Pro	His	Leu	Arg	Cys	Pro	Leu	Gln	Arg	Leu	Val	Leu
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Arg	Lys	Cys	Asp	Leu	Thr	Phe	Asn	Cys	Cys	Gln	Asp	Met	Ile	Ser	Ala
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Leu	Cys	Lys	Asn	Lys	Thr	Leu	Lys	Ser	Leu	Asp	Leu	Ser	Phe	Asn	Ser
	355						360					365			
Leu	Lys	Asp	Asp	Gly	Val	Ile	Leu	Leu	Cys	Glu	Ala	Leu	Lys	Asn	Pro
	370					375					380				
Asp	Cys	Thr	Leu	Gln	Ile	Leu	Glu	Leu	Glu	Asn	Cys	Leu	Phe	Thr	Ser
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Ile	Cys	Cys	Gln	Ala	Met	Ala	Ser	Met	Leu	Arg	Lys	Asn	Gln	His	Leu
			405						410					415	
Arg	His	Leu	Asp	Leu	Ser	Lys	Asn	Ala	Ile	Gly	Val	Tyr	Gly	Ile	Leu
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Thr	Leu	Cys	Glu	Ala	Phe	Ser	Ser	Gln	Lys	Lys	Arg	Glu	Glu	Val	Ile
		435					440					445			
Phe	Cys	Ile	Pro	Ala	Trp	Thr	Arg	Ile	Thr	Ser	Phe	Ser	Pro	Thr	Pro
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His	Pro	Pro	Asp	Phe	Thr	Gly	Lys	Ser	Asp	Cys	Leu	Ser	Gln	Ile	Asn

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gtg aga aag gca atg tta gat tgg gca gag ggc agt ctc tac cag cag Val Arg Lys Ala Met Leu Asp Trp Ala Glu Gly Ser Leu Tyr Gln Gln 195 200 205	624
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aaa gag aga agc ttt gct caa ttg ata tca aag gac tgg ccc agc aca Lys Glu Arg Ser Phe Ala Gln Leu Ile Ser Lys Asp Trp Pro Ser Thr 225 230 235 240	720
gaa ggc ccc att gaa gaa atc atg tac cag cca agt agc ctc ttg ttt Glu Gly Pro Ile Glu Glu Ile Met Tyr Gln Pro Ser Ser Leu Leu Phe 245 250 255	768
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ttt gca ctg tgc gaa gac tgg acc caa gaa cac cca gtg tcc ttc ctc Phe Ala Leu Cys Glu Asp Trp Thr Gln Glu His Pro Val Ser Phe Leu 275 280 285	864
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gtg aca aca aga ctc aca act tct aag aga cta aag cag ttg ttg aag Val Thr Thr Arg Leu Thr Thr Ser Lys Arg Leu Lys Gln Leu Leu Lys 305 310 315 320	960
aat cac cat tat gta gag cta cta gga atg tct gag gat gca aga gag Asn His His Tyr Val Glu Leu Leu Gly Met Ser Glu Asp Ala Arg Glu 325 330 335	1008
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ccc cta gtg tgc tgg gcc gct tgt act tgt ctg aag cag caa atg gag Pro Leu Val Cys Trp Ala Ala Cys Thr Cys Leu Lys Gln Gln Met Glu 370 375 380	1152
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Thr Cys Tyr Ile Ser Ser Leu Phe Thr Pro Val Asp Gly Gly Ser Pro	
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agt cta ccc aac caa gcc cag ctg aga aga ctg tgc caa gtc gct gcc	1296
Ser Leu Pro Asn Gln Ala Gln Leu Arg Arg Leu Cys Gln Val Ala Ala	
420 425 430	
aaa gga ata tgg act atg act tac gtg ttt tac aga gaa aat ctc aga	1344
Lys Gly Ile Trp Thr Met Thr Tyr Val Phe Tyr Arg Glu Asn Leu Arg	
435 440 445	
agg ctt ggg tta act caa tct gat gtc tct agt ttt atg gac agc aat	1392
Arg Leu Gly Leu Thr Gln Ser Asp Val Ser Ser Phe Met Asp Ser Asn	
450 455 460	
att att cag aag gac gca gag tat gaa aac tgc tat gtg ttc acc cac	1440
Ile Ile Gln Lys Asp Ala Glu Tyr Glu Asn Cys Tyr Val Phe Thr His	
465 470 475 480	
ctt cat gtt cag gag ttt ttt gca gct atg ttc tat atg ttg aaa ggc	1488
Leu His Val Gln Glu Phe Phe Ala Ala Met Phe Tyr Met Leu Lys Gly	
485 490 495	
agt tgg gaa gct ggg aac cct tcc tgc cag cct ttt gaa gat ttg aag	1536
Ser Trp Glu Ala Gly Asn Pro Ser Cys Gln Pro Phe Glu Asp Leu Lys	
500 505 510	
tca tta ctt caa agc aca agt tat aaa gac ccc cat ttg aca cag atg	1584
Ser Leu Leu Gln Ser Thr Ser Tyr Lys Asp Pro His Leu Thr Gln Met	
515 520 525	
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Lys Cys Phe Leu Phe Gly Leu Leu Asn Glu Asp Arg Val Lys Gln Leu	
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Glu Arg Thr Phe Asn Cys Lys Met Ser Leu Lys Ile Lys Ser Lys Leu	
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Leu Gln Cys Met Glu His Cys Arg Cys Leu Arg Thr Ile Arg Leu Ser	
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gta act gtg gta ttt gag aag aag ata tta aaa aca agc ctc cca act	1776
Val Thr Val Val Phe Glu Lys Lys Ile Leu Lys Thr Ser Leu Pro Thr	
580 585 590	
aac act tgg ttg aaa ttt atc act ttc cct gat ggt tgt cag gat atc	1824
Asn Thr Trp Leu Lys Phe Ile Thr Phe Pro Asp Gly Cys Gln Asp Ile	
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tct act tct ttg att cat aac aag aat ctg atg cat ctt gac cta aaa	1872
Ser Thr Ser Leu Ile His Asn Lys Asn Leu Met His Leu Asp Leu Lys	
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ggg agt gat ata ggg gat aat gga gta aag tca ttg tgt gaa gcc ttg	1920

Gly 625	Ser	Asp	Ile	Gly 630	Asp	Asn	Gly	Val	Lys	Ser 635	Leu	Cys	Glu	Ala	Leu 640	
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Lys	His	Pro	Glu	Cys	Lys	Leu	Gln	Thr	Leu	Ser	Leu	Glu	Ser	Cys	Gly	
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ctc	aca	gag	gct	ggc	tgt	gag	tat	ctt	tct	ttg	gct	ctc	atc	agc	aat	2016
Leu	Thr	Glu	Ala	Gly	Cys	Glu	Tyr	Leu	Ser	Leu	Ala	Leu	Ile	Ser	Asn	
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Lys	Arg	Leu	Thr	His	Leu	Cys	Leu	Ala	Asp	Asn	Val	Leu	Gly	Asp	Gly	
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Gly	Val	Lys	Leu	Met	Ser	Asp	Ala	Leu	Gln	His	Ala	Gln	Cys	Thr	Leu	
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Lys	Ser	Leu	Val	Leu	Met	Gly	Cys	Val	Leu	Thr	Asn	Ala	Cys	Cys	Leu	
705				710					715						720	
gat	ctg	gct	tct	gtt	att	ttg	aat	aac	cca	aac	ctg	agg	agc	ctg	gac	2208
Asp	Leu	Ala	Ser	Val	Ile	Leu	Asn	Asn	Pro	Asn	Leu	Arg	Ser	Leu	Asp	
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Leu	Gly	Asn	Asn	Asp	Leu	Gln	Asp	Asp	Gly	Val	Lys	Ile	Leu	Cys	Asp	
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Ala	Leu	Arg	Tyr	Pro	Asn	Cys	Asn	Ile	Gln	Arg	Leu	Gly	Leu	Glu	Tyr	
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tgt	ggg	ttg	aca	tct	ctc	tgc	tgt	caa	gat	ctc	tcc	tct	gct	ctt	atc	2352
Cys	Gly	Leu	Thr	Ser	Leu	Cys	Cys	Gln	Asp	Leu	Ser	Ser	Ala	Leu	Ile	
	770					775					780					
tgc	aac	aaa	aga	ctg	ata	aaa	atg	aat	ctg	aca	cag	aat	acc	tta	gga	2400
Cys	Asn	Lys	Arg	Leu	Ile	Lys	Met	Asn	Leu	Thr	Gln	Asn	Thr	Leu	Gly	
785					790				795					800		
tat	gaa	gga	att	gtg	aag	tta	tat	aaa	gtc	ttg	aag	tct	cct	aag	tgt	2448
Tyr	Glu	Gly	Ile	Val	Lys	Leu	Tyr	Lys	Val	Leu	Lys	Ser	Pro	Lys	Cys	
				805					810					815		
aaa	cta	caa	gtt	cta	gga	caa	cag	gat	ttc	caa	gct	gcc	caa	gga	aaa	2496
Lys	Leu	Gln	Val	Leu	Gly	Gln	Gln	Asp	Phe	Gln	Ala	Ala	Gln	Gly	Lys	
			820					825					830			
ctc	caa	caa	agg	agg	cca	ttg	aag	ccg	tta	aga	ccg	ggg	cag	gtg	aac	2544
Leu	Gln	Gln	Arg	Arg	Pro	Leu	Lys	Pro	Leu	Arg	Pro	Gly	Gln	Val	Asn	
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agg	aag	tta	aag	act	gaa	aag	gag	aca	caa	aac	tgc	cga	ctt	tcc	cga	2592
Arg	Lys	Leu	Lys	Thr	Glu	Lys	Glu	Thr	Gln	Asn	Cys	Arg	Leu	Ser	Arg	

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cgg cga att ggc cct ctg gaa aca gcc gac caa tca cag gca gca ggg			2640
Arg Arg Ile Gly Pro Leu Glu Thr Ala Asp Gln Ser Gln Ala Ala Gly			
865	870	875	880
gcg cgc cct gca gcg ggg ctc cgg ctg cgg ttc cgt gga ctc ggc gac			2688
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Phe Leu Lys Glu Thr Met Glu Pro Glu His Gly Leu Thr Pro Trp Thr			
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Glu Val Lys Lys Ala Arg Arg Glu Asp Leu Ala Asn Leu Met Lys Lys			
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Tyr Tyr Pro Gly Glu Lys Ala Trp Ser Val Ser Leu Lys Ile Phe Gly			
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Lys Met Asn Leu Lys Asp Leu Cys Glu Arg Ala Lys Glu Glu Ile Asn			
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Trp Ser Ala Gln Thr Ile Gly Pro Asp Asp Ala Lys Ala Gly Glu Thr			
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Gln Glu Asp Gln Glu Ala Val Leu Gly Asp Gly Thr Glu Tyr Arg Asn			
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Arg Ile Lys Glu Lys Phe Cys Ile Thr Trp Asp Lys Lys Ser Leu Ala			
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Gly Lys Pro Glu Asp Phe His His Gly Ile Ala Glu Lys Asp Arg Lys			
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Leu Leu Glu His Leu Phe Asp Val Asp Val Lys Thr Gly Ala Gln Pro			
	165	170	175
Gln Ile Val Val Leu Gln Gly Ala Ala Gly Val Gly Lys Thr Thr Leu			
	180	185	190
Val Arg Lys Ala Met Leu Asp Trp Ala Glu Gly Ser Leu Tyr Gln Gln			
	195	200	205
Arg Phe Lys Tyr Val Phe Tyr Leu Asn Gly Arg Glu Ile Asn Gln Leu			
	210	215	220
Lys Glu Arg Ser Phe Ala Gln Leu Ile Ser Lys Asp Trp Pro Ser Thr			
	225	230	235
Glu Gly Pro Ile Glu Glu Ile Met Tyr Gln Pro Ser Ser Leu Leu Phe			
	245	250	255
Ile Ile Asp Ser Phe Asp Glu Leu Asn Phe Ala Phe Glu Glu Pro Glu			
	260	265	270
Phe Ala Leu Cys Glu Asp Trp Thr Gln Glu His Pro Val Ser Phe Leu			
	275	280	285
Met Ser Ser Leu Leu Arg Lys Val Met Leu Pro Glu Ala Ser Leu Leu			
	290	295	300
Val Thr Thr Arg Leu Thr Thr Ser Lys Arg Leu Lys Gln Leu Leu Lys			

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Asn	His	His	Tyr	Val	Glu	Leu	Leu	Gly	Met	Ser	Glu	Asp	Ala	Arg	Glu
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Glu	Tyr	Ile	Tyr	Gln	Phe	Phe	Glu	Asp	Lys	Arg	Trp	Ala	Met	Lys	Val
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Phe	Ser	Ser	Leu	Lys	Ser	Asn	Glu	Met	Leu	Phe	Ser	Met	Cys	Gln	Val
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Pro	Leu	Val	Cys	Trp	Ala	Ala	Cys	Thr	Cys	Leu	Lys	Gln	Gln	Met	Glu
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Lys	Gly	Gly	Asp	Val	Thr	Leu	Thr	Cys	Gln	Thr	Thr	Ala	Leu	Phe	
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Thr	Cys	Tyr	Ile	Ser	Ser	Leu	Phe	Thr	Pro	Val	Asp	Gly	Gly	Ser	Pro
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Ser	Leu	Pro	Asn	Gln	Ala	Gln	Leu	Arg	Arg	Leu	Cys	Gln	Val	Ala	Ala
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Lys	Gly	Ile	Trp	Thr	Met	Thr	Tyr	Val	Phe	Tyr	Arg	Glu	Asn	Leu	Arg
		435					440					445			
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	450					455					460				
Ile	Ile	Gln	Lys	Asp	Ala	Glu	Tyr	Glu	Asn	Cys	Tyr	Val	Phe	Thr	His
465					470					475				480	
Leu	His	Val	Gln	Glu	Phe	Phe	Ala	Ala	Met	Phe	Tyr	Met	Leu	Lys	Gly
			485						490					495	
Ser	Trp	Glu	Ala	Gly	Asn	Pro	Ser	Cys	Gln	Pro	Phe	Glu	Asp	Leu	Lys
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Ser	Leu	Leu	Gln	Ser	Thr	Ser	Tyr	Lys	Asp	Pro	His	Leu	Thr	Gln	Met
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Lys	Cys	Phe	Leu	Phe	Gly	Leu	Leu	Asn	Glu	Asp	Arg	Val	Lys	Gln	Leu
	530					535					540				
Glu	Arg	Thr	Phe	Asn	Cys	Lys	Met	Ser	Leu	Lys	Ile	Lys	Ser	Lys	Leu
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Leu	Gln	Cys	Met	Glu	His	Cys	Arg	Cys	Leu	Arg	Thr	Ile	Arg	Leu	Ser
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Val	Thr	Val	Val	Phe	Glu	Lys	Lys	Ile	Leu	Lys	Thr	Ser	Leu	Pro	Thr
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Lys	His	Pro	Glu	Cys	Lys	Leu	Gln	Thr	Leu	Ser	Leu	Glu	Ser	Cys	Gly
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Lys	Arg	Leu	Thr	His	Leu	Cys	Leu	Ala	Asp	Asn	Val	Leu	Gly	Asp	Gly
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Gly	Val	Lys	Leu	Met	Ser	Asp	Ala	Leu	Gln	His	Ala	Gln	Cys	Thr	Leu
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Lys	Ser	Leu	Val	Leu	Met	Gly	Cys	Val	Leu	Thr	Asn	Ala	Cys	Cys	Leu
705					710					715					720
Asp	Leu	Ala	Ser	Val	Ile	Leu	Asn	Asn	Pro	Asn	Leu	Arg	Ser	Leu	Asp
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Leu	Gly	Asn	Asn	Asp	Leu	Gln	Asp	Asp	Gly	Val	Lys	Ile	Leu	Cys	Asp
			740					745					750		
Ala	Leu	Arg	Tyr	Pro	Asn	Cys	Asn	Ile	Gln	Arg	Leu	Gly	Leu	Glu	Tyr
		755					760					765			

Cys Gly Leu Thr Ser Leu Cys Cys Gln Asp Leu Ser Ser Ala Leu Ile
 770 775 780
 Cys Asn Lys Arg Leu Ile Lys Met Asn Leu Thr Gln Asn Thr Leu Gly
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 Tyr Glu Gly Ile Val Lys Leu Tyr Lys Val Leu Lys Ser Pro Lys Cys
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 Lys Leu Gln Val Leu Gly Gln Gln Asp Phe Gln Ala Ala Gln Gly Lys
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 Arg Lys Leu Lys Thr Glu Lys Glu Thr Gln Asn Cys Arg Leu Ser Arg
 850 855 860
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 Met Ala Ala Ser Phe Phe Ser Asp Phe Gly Leu Met Trp Tyr
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 ctg gag gag ctc aaa aag gag gag ttc agg aaa ttt aaa gaa cat ctc 159
 Leu Glu Glu Leu Lys Lys Glu Glu Phe Arg Lys Phe Lys Glu His Leu
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 Lys Gln Met Thr Leu Gln Leu Glu Leu Lys Gln Ile Pro Trp Thr Glu
 35 40 45

 gtc aaa aaa gca tcc cgg gaa gaa ctt gca aac ctc ttg atc aag cac 255
 Val Lys Lys Ala Ser Arg Glu Glu Leu Ala Asn Leu Leu Ile Lys His
 50 55 60

 tat gaa gaa caa caa gct tgg aac ata acc tta aga atc ttt caa aag 303
 Tyr Glu Glu Gln Gln Ala Trp Asn Ile Thr Leu Arg Ile Phe Gln Lys
 65 70 75

 atg gat aga aag gat ctc tgc atg aag gtc atg agg gag aga aca gga 351
 Met Asp Arg Lys Asp Leu Cys Met Lys Val Met Arg Glu Arg Thr Gly
 80 85 90

 tac aca aag acc tat caa gct cac gca aag cag aaa ttc agc cgc tta 399
 Tyr Thr Lys Thr Tyr Gln Ala His Ala Lys Gln Lys Phe Ser Arg Leu
 95 100 105 110

 tgg tcc agc aag tct gtc act gag att cac cta tac ttt gag gag gaa 447

Trp	Ser	Ser	Lys	Ser	Val	Thr	Glu	Ile	His	Leu	Tyr	Phe	Glu	Glu	Glu		
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gtc	aag	caa	gaa	gaa	tgt	gac	cat	ttg	gac	cgc	ctt	ttt	gct	ccc	aag		495
Val	Lys	Gln	Glu	Glu	Cys	Asp	His	Leu	Asp	Arg	Leu	Phe	Ala	Pro	Lys		
			130					135					140				
gaa	act	ggg	aaa	cag	cca	cgt	aca	gtg	att	att	caa	gga	cca	caa	gga		543
Glu	Thr	Gly	Lys	Gln	Pro	Arg	Thr	Val	Ile	Ile	Gln	Gly	Pro	Gln	Gly		
			145				150					155					
att	gga	aaa	acg	aca	ctc	ctg	atg	aag	ctg	atg	atg	gcc	tgg	tcg	gac		591
Ile	Gly	Lys	Thr	Thr	Leu	Leu	Met	Lys	Leu	Met	Met	Ala	Trp	Ser	Asp		
	160					165					170						
aac	aag	atc	ttt	cgg	gat	agg	ttc	ctg	tac	acg	ttc	tat	ttc	tgc	tgc		639
Asn	Lys	Ile	Phe	Arg	Asp	Arg	Phe	Leu	Tyr	Thr	Phe	Tyr	Phe	Cys	Cys		
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aga	gaa	ctg	agg	gag	ttg	ccg	cca	acg	agt	ttg	gct	gac	ttg	att	tcc		687
Arg	Glu	Leu	Arg	Glu	Leu	Pro	Pro	Thr	Ser	Leu	Ala	Asp	Leu	Ile	Ser		
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aga	gag	tgg	cct	gac	ccc	gct	gct	cct	ata	aca	gag	atc	gtg	tct	caa		735
Arg	Glu	Trp	Pro	Asp	Pro	Ala	Ala	Pro	Ile	Thr	Glu	Ile	Val	Ser	Gln		
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Pro	Glu	Arg	Leu	Leu	Phe	Val	Ile	Asp	Ser	Phe	Glu	Glu	Leu	Gln	Gly		
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ggc	ttg	aac	gaa	ccc	gat	tcg	gat	ctg	tgt	ggg	gac	ttg	atg	gag	aaa		831
Gly	Leu	Asn	Glu	Pro	Asp	Ser	Asp	Leu	Cys	Gly	Asp	Leu	Met	Glu	Lys		
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Arg	Pro	Val	Gln	Val	Leu	Leu	Ser	Ser	Leu	Leu	Arg	Lys	Lys	Met	Leu		
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ccg	gag	gcc	tcc	ctg	ctc	atc	gcc	atc	aaa	ccc	gtg	tgc	ccg	aag	gag		927
Pro	Glu	Ala	Ser	Leu	Leu	Ile	Ala	Ile	Lys	Pro	Val	Cys	Pro	Lys	Glu		
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ctc	cgg	gat	cag	gtg	acg	atc	tca	gaa	atc	tac	cag	ccc	cgg	gga	ttc		975
Leu	Arg	Asp	Gln	Val	Thr	Ile	Ser	Glu	Ile	Tyr	Gln	Pro	Arg	Gly	Phe		
			290					295					300				
aac	gag	agt	gat	agg	tta	gtg	tat	ttc	tgc	tgt	ttc	ttc	aaa	gac	ccg		1023
Asn	Glu	Ser	Asp	Arg	Leu	Val	Tyr	Phe	Cys	Cys	Phe	Phe	Lys	Asp	Pro		
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Lys	Arg	Ala	Met	Glu	Ala	Phe	Asn	Leu	Val	Arg	Glu	Ser	Glu	Gln	Leu		
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ttt	tcc	ata	tgc	caa	atc	ccg	ctc	ctc	tgc	tgg	atc	ctg	tgt	acc	agt		1119
Phe	Ser	Ile	Cys	Gln	Ile	Pro	Leu	Leu	Cys	Trp	Ile	Leu	Cys	Thr	Ser		

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Leu Lys Gln Glu Met Gln Lys Gly Lys Asp Leu Ala Leu Thr Cys Gln				
355		360	365	
agc act acc tct gtg tac tcc tct ttc gtc ttt aac ctg ttc aca cct				1215
Ser Thr Thr Ser Val Tyr Ser Ser Phe Val Phe Asn Leu Phe Thr Pro				
370		375	380	
gag ggt gcc gag ggc ccg act ccg caa acc cag cac cag ctg aag gcc				1263
Glu Gly Ala Glu Gly Pro Thr Pro Gln Thr Gln His Gln Leu Lys Ala				
385		390	395	
ctg tgc tcc ctg gct gca gag ggt atg tgg aca gac aca ttt gag ttt				1311
Leu Cys Ser Leu Ala Ala Glu Gly Met Trp Thr Asp Thr Phe Glu Phe				
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Cys Glu Asp Asp Leu Arg Arg Asn Gly Val Val Asp Ala Asp Ile Pro				
415		420	425	430
gcg ctg ctg ggc acc aag ata ctt ctg aag tac ggg gag cgt gag agc				1407
Ala Leu Leu Gly Thr Lys Ile Leu Leu Lys Tyr Gly Glu Arg Glu Ser				
435		440	445	
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Ser Tyr Val Phe Leu His Val Cys Ile Gln Glu Phe Cys Ala Ala Leu				
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ttc tat ttg ctc aag agc cac ctt gat cat cct cac cca gct gtg aga				1503
Phe Tyr Leu Leu Lys Ser His Leu Asp His Pro His Pro Ala Val Arg				
465		470	475	
tgt gta cag gaa ttg cta gtt gcc aat ttt gaa aaa gca agg aga gca				1551
Cys Val Gln Glu Leu Leu Val Ala Asn Phe Glu Lys Ala Arg Arg Ala				
480		485	490	
cat tgg att ttt ttg ggg tgt ttt cta act ggc ctt tta aat aaa aag				1599
His Trp Ile Phe Leu Gly Cys Phe Leu Thr Gly Leu Leu Asn Lys Lys				
495		500	505	510
gaa caa gaa aaa ctg gat gcg ttt ttt ggc ttc caa ctg tcc caa gag				1647
Glu Gln Glu Lys Leu Asp Ala Phe Phe Gly Phe Gln Leu Ser Gln Glu				
515		520	525	
ata aag cag caa att cac cag tgc ctg aag agc tta ggg gag cgt ggc				1695
Ile Lys Gln Gln Ile His Gln Cys Leu Lys Ser Leu Gly Glu Arg Gly				
530		535	540	
aat cct cag gga cag gtg gat tcc ttg gcg ata ttt tac tgt ctc ttt				1743
Asn Pro Gln Gly Gln Val Asp Ser Leu Ala Ile Phe Tyr Cys Leu Phe				
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gaa atg cag gat cct gcc ttt gtg aag cag gca gtg aac ctc ctc caa				1791
Glu Met Gln Asp Pro Ala Phe Val Lys Gln Ala Val Asn Leu Leu Gln				
560		565	570	

gaa gct aac ttt cat att att gac aac gtg gac ttg gtg gtt tct gcc	1839
Glu Ala Asn Phe His Ile Ile Asp Asn Val Asp Leu Val Val Ser Ala	
575 580 585 590	
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Tyr Cys Leu Lys Tyr Cys Ser Ser Leu Arg Lys Leu Cys Phe Ser Val	
595 600 605	
caa aat gtc ttt aag aaa gag gat gaa cac agc tct acg tcg gat tac	1935
Gln Asn Val Phe Lys Lys Glu Asp Glu His Ser Ser Thr Ser Asp Tyr	
610 615 620	
agc ctc atc tgt tgg cat cac atc tgc tct gtg ctc acc acc agc ggg	1983
Ser Leu Ile Cys Trp His His Ile Cys Ser Val Leu Thr Thr Ser Gly	
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cac ctc aga gag ctc cag gtg cag gac agc acc ctc agc gag tcg acc	2031
His Leu Arg Glu Leu Gln Val Gln Asp Ser Thr Leu Ser Glu Ser Thr	
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Phe Val Thr Trp Cys Asn Gln Leu Arg His Pro Ser Cys Arg Leu Gln	
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Lys Leu Gly Ile Asn Asn Val Ser Phe Ser Gly Gln Ser Val Leu Leu	
675 680 685	
ttt gag gtg ctc ttt tat cag cca gac ttg aaa tac ctg agc ttc acc	2175
Phe Glu Val Leu Phe Tyr Gln Pro Asp Leu Lys Tyr Leu Ser Phe Thr	
690 695 700	
ctc acg aaa ctc tct cgt gat gac atc agg tcc ctc tgt gat gcc ttg	2223
Leu Thr Lys Leu Ser Arg Asp Asp Ile Arg Ser Leu Cys Asp Ala Leu	
705 710 715	
aac tac cca gca ggc aac gtc aaa gag cta gcg ctg gta aat tgt cac	2271
Asn Tyr Pro Ala Gly Asn Val Lys Glu Leu Ala Leu Val Asn Cys His	
720 725 730	
ctc tca ccc att gat tgt gaa gtc ctt gct ggc ctt cta acc aac aac	2319
Leu Ser Pro Ile Asp Cys Glu Val Leu Ala Gly Leu Leu Thr Asn Asn	
735 740 745 750	
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Lys Lys Leu Thr Tyr Leu Asn Val Ser Cys Asn Gln Leu Asp Thr Gly	
755 760 765	
gtg ccc ctt ttg tgt gaa gcc ctg tgc agc cca gac acg gtc ctg gta	2415
Val Pro Leu Leu Cys Glu Ala Leu Cys Ser Pro Asp Thr Val Leu Val	
770 775 780	
tac ctg atg ttg gct ttc tgc cac ctc agc gag cag tgc tgc gaa tac	2463
Tyr Leu Met Leu Ala Phe Cys His Leu Ser Glu Gln Cys Cys Glu Tyr	
785 790 795	

atc tct gaa atg ctt ctg cgt aac aag agc gtg cgc tat cta gac ctc Ile Ser Glu Met Leu Leu Arg Asn Lys Ser Val Arg Tyr Leu Asp Leu 800 805 810	2511
agt gcc aat gtc ctg aag gac gaa gga ctg aaa act ctc tgc gag gcc Ser Ala Asn Val Leu Lys Asp Glu Gly Leu Lys Thr Leu Cys Glu Ala 815 820 825 830	2559
ttg aaa cat ccg gac tgc tgc ctg gat tca ctg tgt ttg gta aaa tgt Leu Lys His Pro Asp Cys Cys Leu Asp Ser Leu Cys Leu Val Lys Cys 835 840 845	2607
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aac ctg acc ttg aac acc ttg gac cac aca ggg gtg gtt gta ctc tgt Asn Leu Thr Leu Asn Thr Leu Asp His Thr Gly Val Val Val Leu Cys 930 935 940	2895
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 Gln Glu Leu Leu Val Ala Asn Phe Glu Lys Ala Arg Arg Ala His Trp
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 Ile Phe Leu Gly Cys Phe Leu Thr Gly Leu Leu Asn Lys Lys Glu Gln
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Ile Leu Gly Leu Glu Glu Cys Gly Leu Thr Ser Thr Cys Cys Lys Asp		895
	900	905
Leu Ala Ser Val Leu Thr Cys Ser Lys Thr Leu Gln Gln Leu Asn Leu		910
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Thr Leu Asn Thr Leu Asp His Thr Gly Val Val Val Leu Cys Glu Ala		925
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